CLAIMS:

1. A system for positioning a product, comprising a chuck (8;44;64;71;108) for supporting the product, an intermediate stage (5;42;62;79;105) supporting said chuck (8;44;64;71;108), and a stationary base (7;41;61;72;107) supporting said intermediate stage (5;42;62;79;105), whereby the chuck (8;44;64;71;108) can move with respect to the intermediate stage (5;42;62;79;105) in a first direction X (9;45;65,80;109), and the intermediate stage (5;42;62;79;105) can move with respect to said stationary base in a second direction Y (6;43;63;81;106), furthermore comprising at least one laser interferometer (47;68;73,74,75,76,77,78) for measuring the position of the chuck (8;44;64;71;108) relative to the stationary base (7;41;61;72;107), the main part (47;68;73,74,75,76,77,78) of said laser interferometer being attached to said intermediate stage (5;42;62;79;105), so that it can measure the distance between a reflector (10;49;67;83,84,85;110) on the chuck (8;44;64;71;108) and a reflector (11;50;66;82,87) on the stationary base (7;41;61;72;107).

2. A system as claimed in claim 1, wherein said reflector (11;50;66;82,87) on the stationary base (7;41;61;72;107) is an elongated plane mirror reflector, having a length larger than the maximal displacement of the intermediate stage (5;42;62;79;105) in said second direction Y (6;43;63;81;106).

3. A system as claimed in any one of the preceding claims, wherein the main parts (47;68;73,74,75,76,77,78) of two laser interferometers are attached to said intermediate stage 5;42;62;79;107), each for measuring the distance between a respective reflector (10;49;67;110) on the chuck (8;44;64;71;108) and the same elongated plane mirror reflector (11;50;66;82;87) in the stationary base (7;41;61;72;107).

4. A system as claimed in any one of the preceding claims, wherein the main parts (73,74,75) of three laser interferometers are attached to said intermediate stage (79), for measuring distances in the first direction X (80) between one or more reflectors (83,84,85) on the chuck (71) and one or more plane mirror reflectors (82) in the stationary base (72).

5. A system as claimed in any one of the preceding claims, wherein said reflector(110) on the chuck (108) is a cube corner reflector.

6. A system as claimed in any one of the preceding claims, wherein the main part (76,77) of a laser interferometer is attached to said intermediate stage (79) for measuring the distance in the third direction Z between a reflector on the chuck and a reflector (87) on the stationary base (72), which direction is perpendicular to the first direction X (80) and the second direction Y (81).

7. A method for positioning a product by means of a system comprising a chuck (44;64;71) for supporting the product, an intermediate stage (42;62;79) supporting said chuck (44;64;71), and a stationary base (41;61;72) supporting said intermediate stage (42;62;79), whereby the chuck (44;64;71) can move with respect to the intermediate stage (42;62;79) in a first direction X (45;65;80), and the intermediate stage (42;62;79) can move with respect to said stationary base (41;61;72) in a second direction Y (43;63;81), furthermore comprising at least one laser interferometer (47;68;73,74,75,76,77,78) for measuring the position of the chuck (8;44;64;71;108) relative to the stationary base (41;61;72), wherein the distance between a reflector (49;67) on the chuck (44;64;71) and a reflector (50;66;82;87) on the stationary base (41;61;72) is measured by means of a laser interferometer, whereby the main part (47;68;73,74,75) of that laser interferometer is attached to said intermediate stage (42;62;79).